RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/539,677
Source: PCT/10
Date Processed by STIC: 6/29/05

ENTERED

PCT

RAW SEQUENCE LISTING DATE: 06/29/2005
PATENT APPLICATION: **US/10/539,677** TIME: 14:02:29

Input Set : **A:\194_PCT Sequence Listing.ST25.txt**
Output Set: **N:\CRF4\06292005\J539677.raw**

```
      3 <110> APPLICANT: University of Maryland Biotechnology Institute
      4       Pauza, C. David
      5       Tikhonov, Ilia
      7 <120> TITLE OF INVENTION: VACCINES AGAINST HIV-1 PROTEIN TO GENERATE NEUTRALIZING
      8       ANTIBODIES
     10 <130> FILE REFERENCE: 4115-194
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/539,677
     13 <141> CURRENT FILING DATE: 2005-06-16
     15 <150> PRIOR APPLICATION NUMBER: US 60/434,368
     16 <151> PRIOR FILING DATE: 2002-12-18
     18 <160> NUMBER OF SEQ ID NOS: 51
     20 <170> SOFTWARE: PatentIn version 3.3
     22 <210> SEQ ID NO: 1
     23 <211> LENGTH: 21
     24 <212> TYPE: PRT
     25 <213> ORGANISM: Human immunodeficiency virus type 1
     28 <220> FEATURE:
     29 <221> NAME/KEY: MISC_FEATURE
     30 <222> LOCATION: (21)..(21)
     31 <223> OTHER INFORMATION: X may be any amino acid, preferably A or P
     33 <400> SEQUENCE: 1
     35 Met Glu Pro Val Asp Pro Arg Leu Glu Pro Trp Lys His Pro Gly Ser
     36 1               5                   10                  15
W--> 39 Gln Pro Lys Thr Xaa
     40             20
     43 <210> SEQ ID NO: 2
     44 <211> LENGTH: 21
     45 <212> TYPE: PRT
     46 <213> ORGANISM: Human immunodeficiency virus type 1
     49 <220> FEATURE:
     50 <221> NAME/KEY: MISC_FEATURE
     51 <222> LOCATION: (21)..(21)
     52 <223> OTHER INFORMATION: X may be any amino acid, preferably A or P
     54 <400> SEQUENCE: 2
     56 Met Glu Pro Val Asp Pro Asn Leu Glu Pro Trp Asn His Pro Gly Ser
     57 1               5                   10                  15
W--> 60 Gln Pro Lys Thr Xaa
     61             20
     64 <210> SEQ ID NO: 3
     65 <211> LENGTH: 21
     66 <212> TYPE: PRT
     67 <213> ORGANISM: Human immunodeficiency virus type 1
     70 <220> FEATURE:
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     71 <221> NAME/KEY: MISC_FEATURE
     72 <222> LOCATION: (21)..(21)
     73 <223> OTHER INFORMATION: X maqy be any amino acid, preferably A or P
     75 <400> SEQUENCE: 3
     77 Met Glu Pro Val Asp Pro Arg Leu Glu Pro Trp Asn His Pro Gly Ser
     78 1               5                   10                  15
W--> 81 Gln Pro Lys Thr Xaa
     82             20
     85 <210> SEQ ID NO: 4
     86 <211> LENGTH: 21
     87 <212> TYPE: PRT
     88 <213> ORGANISM: Human immunodeficiency virus type 1
     91 <220> FEATURE:
     92 <221> NAME/KEY: MISC_FEATURE
     93 <222> LOCATION: (21)..(21)
     94 <223> OTHER INFORMATION: X may be any amino acid, preferably A or P
     96 <400> SEQUENCE: 4
     98 Met Glu Pro Val Asp Pro Asn Leu Glu Pro Trp Lys His Pro Gly Ser
     99 1               5                   10                  15
W--> 102 Gln Pro Lys Thr Xaa
     103            20
     106 <210> SEQ ID NO: 5
     107 <211> LENGTH: 21
     108 <212> TYPE: PRT
     109 <213> ORGANISM: Human immunodeficiency virus type 1
     111 <400> SEQUENCE: 5
     113 Met Glu Pro Val Asp Pro Arg Leu Glu Pro Trp Lys His Pro Gly Ser
     114 1               5                   10                  15
     117 Gln Pro Lys Thr Ala
     118            20
     121 <210> SEQ ID NO: 6
     122 <211> LENGTH: 21
     123 <212> TYPE: PRT
     124 <213> ORGANISM: Human immunodeficiency virus type 1
     126 <400> SEQUENCE: 6
     128 Met Glu Pro Val Asp Pro Arg Leu Glu Pro Trp Lys His Pro Gly Ser
     129 1               5                   10                  15
     132 Gln Pro Lys Thr Pro
     133            20
     136 <210> SEQ ID NO: 7
     137 <211> LENGTH: 63
     138 <212> TYPE: DNA
     139 <213> ORGANISM: Human immunodeficiency virus type 1
     142 <220> FEATURE:
     143 <221> NAME/KEY: misc_feature
     144 <222> LOCATION: (61)..(63)
     145 <223> OTHER INFORMATION: nnn may be any codon, preferably encoding A or P
     147 <400> SEQUENCE: 7
     148 atggagccag tagatcctag actagagccc tggaagcatc caggaagtca gcctaagact     60
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W--> 150 nnn                                                                63
     153 <210> SEQ ID NO: 8
     154 <211> LENGTH: 63
     155 <212> TYPE: DNA
     156 <213> ORGANISM: Human immunodeficiency virus type 1
     159 <220> FEATURE:
     160 <221> NAME/KEY: misc_feature
     161 <222> LOCATION: (61)..(63)
     162 <223> OTHER INFORMATION: nnn may be any codon, preferably encoding A or P
     164 <400> SEQUENCE: 8
     165 atggagccag tagatcctaa tctagagccc tggaatcatc caggaagtca gcctaagact     60
W--> 167 nnn                                                                63
     170 <210> SEQ ID NO: 9
     171 <211> LENGTH: 63
     172 <212> TYPE: DNA
     173 <213> ORGANISM: Human immunodeficiency virus type 1
     176 <220> FEATURE:
     177 <221> NAME/KEY: misc_feature
     178 <222> LOCATION: (61)..(63)
     179 <223> OTHER INFORMATION: nnn may be any codon, preferably encoding A or P
     181 <400> SEQUENCE: 9
     182 atggagccag tagatcctag actagagccc tggaatcatc caggaagtca gcctaagact     60
W--> 184 nnn                                                                63
     187 <210> SEQ ID NO: 10
     188 <211> LENGTH: 63
     189 <212> TYPE: DNA
     190 <213> ORGANISM: Human immunodeficiency virus type 1
     193 <220> FEATURE:
     194 <221> NAME/KEY: misc_feature
     195 <222> LOCATION: (61)..(63)
     196 <223> OTHER INFORMATION: nnn may be any codon, preferably encoding A or P
     198 <400> SEQUENCE: 10
     199 atggagccag tagatcctaa tctagagccc tggaagcatc caggaagtca gcctaagact     60
W--> 201 nnn                                                                63
     204 <210> SEQ ID NO: 11
     205 <211> LENGTH: 63
     206 <212> TYPE: DNA
     207 <213> ORGANISM: Human immunodeficiency virus type 1
     209 <400> SEQUENCE: 11
     210 atggagccag tagatcctag actagagccc tggaagcatc caggaagtca gcctaagact     60
     212 gct                                                                 63
     215 <210> SEQ ID NO: 12
     216 <211> LENGTH: 63
     217 <212> TYPE: DNA
     218 <213> ORGANISM: Human immunodeficiency virus type 1
     220 <400> SEQUENCE: 12
     221 atggagccag tagatcctag actagagccc tggaagcatc caggaagtca gcctaagact     60
     223 ccc                                                                 63
     226 <210> SEQ ID NO: 13
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Input Set : A:\194_PCT Sequence Listing.ST25.txt
Output Set: N:\CRF4\06292005\J539677.raw

227 <211> LENGTH: 15
228 <212> TYPE: PRT
229 <213> ORGANISM: Artificial Sequence
231 <220> FEATURE:
232 <223> OTHER INFORMATION: Synthetic Construct
234 <400> SEQUENCE: 13
236 Ser Tyr Gly Ser Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln
237 1 5 10 15
240 <210> SEQ ID NO: 14
241 <211> LENGTH: 12
242 <212> TYPE: PRT
243 <213> ORGANISM: Artificial Sequence
245 <220> FEATURE:
246 <223> OTHER INFORMATION: Synthetic Construct
248 <400> SEQUENCE: 14
250 Ser Tyr Gly Ser Lys Lys Arg Arg Gln Arg Arg Arg
251 1 5 10
254 <210> SEQ ID NO: 15
255 <211> LENGTH: 16
256 <212> TYPE: PRT
257 <213> ORGANISM: Artificial Sequence
259 <220> FEATURE:
260 <223> OTHER INFORMATION: Synthetic Construct
262 <400> SEQUENCE: 15
264 Lys Ala Leu Gly Ile Ser Tyr Gly Ser Lys Lys Arg Arg Gln Arg Arg
265 1 5 10 15
268 <210> SEQ ID NO: 16
269 <211> LENGTH: 20
270 <212> TYPE: PRT
271 <213> ORGANISM: Artificial Sequence
273 <220> FEATURE:
274 <223> OTHER INFORMATION: Synthetic Construct
276 <400> SEQUENCE: 16
278 Met Glu Pro Val Asp Pro Arg Leu Glu Pro Trp Lys His Pro Gly Ser
279 1 5 10 15
282 Gln Pro Lys Thr
283 20
286 <210> SEQ ID NO: 17
287 <211> LENGTH: 20
288 <212> TYPE: PRT
289 <213> ORGANISM: Artificial Sequence
291 <220> FEATURE:
292 <223> OTHER INFORMATION: Synthetic Construct
294 <400> SEQUENCE: 17
296 Met Glu Pro Val Asp Pro Lys Leu Glu Pro Trp Lys His Pro Gly Ser
297 1 5 10 15
300 Gln Pro Arg Thr
301 20
304 <210> SEQ ID NO: 18

<211> LENGTH: 20
<212> TYPE: PRT
<213> ORGANISM: Artificial Sequence
<220> FEATURE:
<223> OTHER INFORMATION: Synthetic Construct
<400> SEQUENCE: 18
Met Glu Pro Val Asp Pro Asn Leu Glu Pro Trp Lys His Pro Gly Ser
1 5 10 15
Gln Pro Arg Thr
20
<210> SEQ ID NO: 19
<211> LENGTH: 20
<212> TYPE: PRT
<213> ORGANISM: Artificial Sequence
<220> FEATURE:
<223> OTHER INFORMATION: Synthetic Construct
<400> SEQUENCE: 19
Met Glu Pro Val Asp Pro Asn Leu Glu Pro Trp Asn His Pro Gly Ser
1 5 10 15
Gln Pro Lys Thr
20
<210> SEQ ID NO: 20
<211> LENGTH: 20
<212> TYPE: PRT
<213> ORGANISM: Artificial Sequence
<220> FEATURE:
<223> OTHER INFORMATION: Synthetic Construct
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1 5 10 15
Gln Pro Lys Thr
20
<210> SEQ ID NO: 21
<211> LENGTH: 20
<212> TYPE: PRT
<213> ORGANISM: Artificial Sequence
<220> FEATURE:
<223> OTHER INFORMATION: Synthetic Construct
<400> SEQUENCE: 21
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1 5 10 15
Met Pro Trp Ser
20
<210> SEQ ID NO: 22
<211> LENGTH: 20
<212> TYPE: PRT
<213> ORGANISM: Artificial Sequence
<220> FEATURE:
<223> OTHER INFORMATION: Synthetic Construct

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 06/29/2005
PATENT APPLICATION: **US/10/539,677** TIME: 14:02:30

Input Set : **A:\194_PCT Sequence Listing.ST25.txt**
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Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 21
Seq#:2; Xaa Pos. 21
Seq#:3; Xaa Pos. 21
Seq#:4; Xaa Pos. 21
Seq#:7; N Pos. 61,62,63
Seq#:8; N Pos. 61,62,63
Seq#:9; N Pos. 61,62,63
Seq#:10; N Pos. 61,62,63

VERIFICATION SUMMARY DATE: 06/29/2005
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Input Set : **A:\194_PCT Sequence Listing.ST25.txt**
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L:12 M:270 C: Current Application Number differs, Replaced Current Application Number
L:39 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:16
L:60 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:16
L:81 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:16
L:102 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:16
L:150 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:60
L:167 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:60
L:184 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:60
L:201 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:60